What is claimed is:

1. A device for locating metallic objects, with at least one transmit coil (116) and at least one receive turn system (112, 114; 212, 214), which are inductively coupled to one another,
wherein
electrical switching means (1,..., 8; 1'a, 2'a, 3'a, 1'b, 2'b, 3'b) are provided, which make it possible to vary the effective number of turns of the at least one receive turn system (112, 114; 212, 214).

2. The device as recited in Claim 1,
wherein
the effective number of turns of the at least one receive coil (112, 114; 212, 214) is variable by connecting or disconnecting electrical conductor modules.

3. The device as recited in Claim 1,
wherein
the switching means (1,..., 8; 1'a, 2'a, 3'a, 1'b, 2'b, 3'b) are located between turns (113, 213) of a first receive coil (112, 212) and turns (115, 215) of a second receive coil (114, 214).

4. The device as recited in Claim 1,
wherein
jumpers (1', 2', 3') with switching means (1'a, 2'a, 3'a, 1'b, 2'b, 3'b) are located between receive coil turns (213', 215') with a different radius R_a or R_b.

5. The device as recited in Claim 1 or 3,
wherein
the switching means (1,...,8) or jumpers (1', 2', 3') are realized using solder bridges.

6. The device as recited in Claim 1 or 3,
wherein
the switching means (1,...,8; 1'a, 2'a, 3'a, 1'b, 2'b, 3'b) are realized using semiconductor components.

7. The device as recited in Claim 1, wherein at least two receive coils (112, 114; 212, 214) are located coaxially relative to each other.

8. The device as recited in Claim 1, wherein at least two receive coils (112, 114; 212, 214) are located in a plane.

9. The device as recited in Claim 5 or 6, wherein at least two receive coils (112, 114; 212, 214) are designed as printed circuit coils, particularly on a printed circuit board.

10. The device as recited in Claim 6 and 9, wherein the switching means (1,...,8; 1'a, 2'a, 3'a, 1'b, 2'b, 3'b) are realized using semiconductor switches on the printed circuit board.

11. The device as recited in Claim 8, wherein at least one transmit coil (116) is located in a plane which is positioned with a height offset and is parallel to at least one receive coil.

12. The device as recited in Claim 9 or 11, wherein at least one transmit coil (116) is installed on a bobbin, which is attached to the printed circuit board.

13. A measuring device, in particular a hand-held locating device, with a device as recited in one or more of the Claims 1 through 12.

14. A tool device, in particular a drilling or chiseling tool, with a device as recited in one or more of the Claims 1 through 11.

15. A method for operating an inductive compensation sensor (110, 210), with at least one transmit coil (116) and at least one receive turn system (112, 114; 212, 214), with which the adjustment of a voltage U induced in a receive coil (112, 114; 212, 214) takes place by connecting an adjustment turn system (113, 115; 213', 215') to the turns (113, 115; 213, 215) of the receive turn system (112, 114; 212, 214), this adjustment turn system (113, 115; 213', 215') including one or more compensation modules (220, 222, 224).

16. The method as recited in Claim 15, with which, for each compensation module (220, 222, 224), it is possible to switch between m different alternative configurations (1'a, 2'a, 3'a, 1'b, 2'b, 3'b) of the electrical contacting.

17. The method as recited in Claim 15 or 16,
wherein
the adjustment turn system (113, 115; 213', 215') is composed of at least n (n=1 ... N) independent compensation modules KM_n (220, 222, 224), each having m(n) (m(n)=1 ... M(n)) different configurations, in which a voltage change $\Delta U_{n,m}$ is induced, with $\Delta U = (U(n,m) - U(n,m+1))$, in the receiving branch (212, 214) of the compensation sensor (210) by selectively switching between individual configurations m of a compensation module KM_n (220, 222, 224).

18. The method as recited in Claim 17,
wherein
the compensation modules KM_n (220, 222, 224) are configured such that the voltage change $\Delta U_{n,m}$ differs from the voltage difference $\Delta U_{n-1,m}$, with $\Delta U_{n-1,m}=(U(n-1,m')-U(n-1,m'+1))$, of compensation module KM_{n-1} by the factor M(n-1), with an ordinal number n reduced by one.

19. The method as recited in Claim 17 or 18,
wherein
binary coding with M(n)=2 is used for the compensation modules KM_n (220, 222, 224) of the adjustment turn system (113,115; 213', 215'), so that the relationship $\Delta U = (U(n,1) - U(n,2)) = 2*(U(n-1,1) - U(n-1,2))$ applies.